

REMARKS

Claims 4, 14 and 17 are amended herein to replace the adjective "approximately" with "about." As amended, the claims distinctly recite the claimed distance and frequency to one of ordinary skill in the art. "The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph." MPEP § 2173.05(b). In particular, the term "about" has been held to be clear, but flexible. See, e.g., *Ex parte Eastwood*, 163 USPQ 316 (Bd. App. 1968), *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

The written description clearly explains, and would be understood by one of ordinary skill in the art, that the recited distance and frequency describe the best mode of practicing the present invention as contemplated by the inventor, but that strict adherence to the precise numeric values is not required. Such flexibility is adequately supported by the specification. "Preferably the light sensors are evenly spaced apart by spacing 16, which may vary. In the preferred embodiment, spacing 16 is approximately 2 mm." page lines 8-10 (emphasis added). The functional requirement of the spacing, which admits of some flexibility in any given implementation, is also explained. "Light sources 12 are placed such that light sensors 14 will detect light primarily from the corresponding light source 12. Also, the field of view of sensors 14 is very narrow to avoid sensing extraneous light from sources other than the corresponding light source 12." Those of skill in the optical arts well understand that "about 2mm" denotes a

nominal spacing of 2mm, that may be adjusted as necessary to optimize performance. Similarly, those of skill in the electronic arts well understand a cycling and/or sampling rate of "about 100 kHz."

Claim 1 is amended herein to address the Examiner's objection, and to explicitly recite that all claimed sensors are operative to read the same bar code elements in succession.

The Examiner rejected claims 1-4 and 18-19 under 35 U.S.C. § 103, as being unpatentable over by EP 1040854 to Jannersten (hereinafter, "Jannersten"), in view of U.S. Patent No. 5,697,699 to Seo, *et al.* (hereinafter, "Seo"). Jannersten discloses a method of marking playing cards with a positional code, wherein detection of the presence or absence of uniform black bars on a card forms a binary code that identifies the card's value. The presence of each black bar is independently sensed by one of an array of spaced-apart sensors, all of which operate simultaneously. col. 3, lines 38-44. In other words, each sensor reads one and only one bar code element. The entire code is thus read instantaneously, in parallel. col. 3, lines 54-55.

In stark contrast, sensor of the present invention independently reads all of the elements of each bar code, as the array of sensors is manually scanned across the bar code. That is, each bar code element is read by each sensor in succession. This is clearly recited in amended claim 1, "wherein all of said sensors are operative to read the same bar code elements in succession." The sensors of claim 1, and all claims depending therefrom, thus define patentably over Jannersten.

The Examiner cited Seo as disclosing multiple light sources. Seo discloses an area imaging system wherein two arrays of light sources 45, 46 are disposed at a specific geometric angle over a reading area 36. A single optical system 44 and CCD (charge coupled device) sensor 43 receive the light reflected off the reading area 36. col. 4, lines 20-32. Thus, while Seo does disclose multiple lighting sources, it does not disclose "a corresponding plurality of light sources," *i.e.*, each light source corresponding to a sensor, as recited in claim 1. The plurality of light sources in Seo cannot correspond to a plurality of sensors, and Seo discloses only a single sensor, the CCD. However, even if the CCD, which comprises a two-dimensional array of light sensing elements, is construed to comprise a "plurality" of sensors, there is no correspondence in Seo between each light source and any one of the CCD sensor elements – all light sources illuminate the reading area, and the entire CCD senses the aggregate reflected light. Hence, nothing in Seo teaches or suggests the use of a plurality of sensors and corresponding light sources to read a bar code.

Finally, notwithstanding the failure of either Jannersten or Seo to teach the elements of the present invention for which they are cited, the Examiner has not articulated a plausible motivation for one of ordinary skill in the art to combine the references. The Examiner stated such motivation as "...to provide an improved and enhanced system means for detecting each and every bar code on the surface using a designated light sources [sic] for specified positions of the barcode accordingly." (emphasis added). While such a combination may well improve the bar reading system of Jannersten, it does not lead to the present

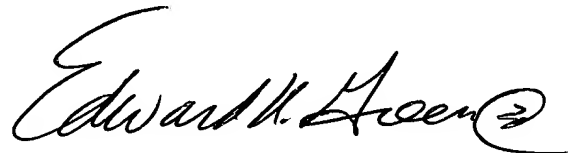
invention. As discussed above, the light sources of the present invention are not used for specified positions of the barcode – each light source illuminates each and every element of the bar code in succession, as it is scanned across the bar code. Thus, not only is the Examiner's proffered motivation to combine inapposite, the proposed combination would not result in the present invention.

As further combination with U.S. Patent No. 4,578,571 to Williams does not cure the deficiency of the cited references to teach the present invention, claim 20 is patentably nonobvious over the cited art.

Applicant notes that claims 5-13, 15-16 and 21-28 are allowed or indicated as allowable. As all rejected claims, as amended, define patentably over the art of record, prompt allowance of the same is respectfully requested.

Respectfully submitted,
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